INPUT

ORDER/INVOICE/FULFILLMENT

ORIGINATOR (SIGNATURE) [illegible] PREPARED BY: DWF DATE: 4/21/86

ACTIVITY

- [x] NEW ORDER
- [ ] CONTINUATION
- [ ] CHANGE
- [ ] CANCEL
- [ ] SPECIAL:

- [ ] FULFILLMENT ONLY
- [ ] SINGLE INVOICING
- [ ] MULTI-INVOICING:
  NO. INVOICES _____
- [ ] PENDING:

COMMISSION TO:	SOLD BY:
DWF 100 %	DWF 100 %
%	%
%	%
%	%

APPROVED [illegible] INITIAL 4/21/86 DATE

PRODUCT

- [ ] SUBSCRIPTION
- [x] CUSTOM
- [ ] MULTICLIENT
- [ ] REPORTS
- [ ] COPIES
- [ ] CONSULT/PRESENT.
- [ ] TAPES/MATERIALS
- [ ] REIMBURSED COSTS

US/UK	PROJ. ID/YEAR	TITLE OR DESCRIPTION	AMOUNT
	YGDS	ADA PRACTICES	$1000

CLIENT AUTH.

P.O. # _____ INPUT CONTRACT [ ] LETTER [ ] VERBAL [ ]

ATTACH ALL AUTHORIZING DOCUMENTS TO WHITE (CONTRACT) COPY.

INVOICE

SHIP TO:*
NAME SCOTT MARKMAN
TITLE SR. MKT RES. ANALYST
COMPANY GRUMMAN DATA SYSTEMS
ADDRESS 250 CROSSWAYS PARK DRIVE
WOODBURY, NY
PHONE (516) 349-5121

INVOICE TO: (IF DIFFERENT)
NAME
TITLE
COMPANY
ADDRESS
PHONE ( )

* [ ] Check here if more than one shipping address and attach names and addresses to green (fulfillment) copy.

* [ ] Check here for address change to mail list.

INVOICE TO READ: (FOR OTHER THAN STANDARD WORDING)

FOR ADA INQUIRY, THIS SUM WILL BE DEDUCTED FROM THE ADVANCE T RESEARCH PORTION OF YOUR CONTRACT, NO FURTHER PAYMENT REQUIRED

SPECIAL INSTRUCTIONS FOR HANDLING, BILLING, STAGGERED OR DELAYED PAYMENTS, ETC.

O.I.F. ONLY

INV. COMP.	BY:	DATE:	CLIENT #:	ORDER #:	INV. #:	MULTI-INVOICING ____ OF ____

ORIGINATOR/SHIPPING FULFILLMENT

ITEM DESCRIPTION OR TITLE	NO.	BY	DATE	ITEM DESCRIPTION OR TITLE	NO.	BY	DATE

FULFILLMENT TO BE COMPLETED IN: [ ] PALO ALTO [ ] LONDON [ ] OTHER _____

• WHITE - ACCOUNTING • GREEN - ACCOUNTING • YELLOW - ACCOUNTING • PINK - ORIGINATOR
• GOLDENROD - REGIONAL SALES MANAGER

R 1/81

INPUT®

Parsippany Place Corporate Center, Suite 201, 959 Route 46 East, Parsippany, NJ 07054 (201) 299-6999

May 28, 1986

Mr. Scott E. Markman
GRUMMAN DATA SYSTEMS
CORPORATION
250 Crossways Park Drive
Woodbury, New York 11797

Dear Mr. Markman:

Pursuant to our verbal agreement, this is to advise you that the amount of $4,000.00 will be debited against the Grumman purchase order (P.O.) #8822552 dated 3/25/86 covering INPUT's services to your firm. This represents eight (8) days effort on the part of Lisa Percy, Research Analyst in support of your ADA information requirements. A copy of this letter will be forwarded to our accounting department.

Through Miss Percy I understand that you and your peers are highly pleased with the results of the reseach effort. If there are any further questions, comments or concerns please contact me directly. We look forward to assisting Grumman in the future. Thank you for thinking of INPUT.

Sincerely,

D. W. Fostle
Vice President

DWF/jh

TITLE ADP PLANS

CLIENT GRUMMAN (MASTER CONTRACT

CONTRACT: ATTACHED____ TO FOLLOW____ LETTER ✓ VERBAL ✓

PROJECT LEADER PETE (CY CODE 7605

DATE STARTED 4/21 PLANNED COMPLETION DATE 5/30/86

LEVEL OF EFFORT(Professional Man Days) 4 DAYS (SPECIAL RATE)

TOTAL CONTRACT VALUE: $ 4000.00

REVENUE DISTRIBUTION (% or $) INPUT US ✓ INPUT LTD____

REIMBURSABLE EXPENSES: NO ✓

YES____

EXP. BUDGET____ TO COVER: TRAV: ____
TEL: ____
RPT. PREP.: ____
OTHER: ____

BILLING SCHEDULE DESCRIPTION____

PROJECT DESCRIPTION CALL SELECTED VENDORS TO DETERMINE HOW IN-HOUSE CLIENT CAN TURN INTO CUSTOMER TO CLIENT STAND.

INDICATE TYPE OF CUSTOM WORK: REPORT____ PRESENTATION____

THANK YOU PACKAGE: YES____ NO____

YOUS

1985 QUARTERLY SCHEDULING PLAN Q1

PROJECT: REPLY

DATE: 4/2 8/10

PROJECT LEADER:

CORPORATE/WEEK ENDING

ACTIVITY / PROJECT	NAME	MAN DAYS	EFFI-CIENCY	ESMD	CORP WEEK END	1 1/4	2 1/11	3 1/18	4 1/25	5 2/1	6 2/8	7 2/15	8 2/22	9 3/1	10 3/8	11 3/15	12 3/22	13 3/29
						~~JANUARY~~ APRIL				~~FEBRUARY~~ MAY				MARCH				
PROJECT AUTHORIZATION/ SPECIFICATION		1	.5	.5				1										
Q DESIGN		1	.5	.5					1									
Q APPROVAL/ REVIEW MEETING																		
INTERVIEWS ON SITE ( ) NO.																		
INTERVIEWS PHONE (✓) NO.		14	.5	7							14							
DATATAB AND ANALYSIS																		
WRITING																		
ABSTRACT																		
QC																		
REPORT PROD. AND SHIPPING																		
PRESENTATION																		
"THANK YOU" MAILED																		
PLAN																		
ACTUAL																		
CUM P/A																		

R12/83

INPUT

TAKES

YGD5

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES _____ NO _____ DK _____ REF _____
GO 31

IF YES:

2. Are any of these R&D projects?

YES _____ NO _____ DK _____ REF _____
GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL _____ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

_____

5. Please describe: _____

_____

_____

_____

6. How many people are involved with this project? #_____

7. How many lines of code are associated with this project? #_____

8. Are there any other R&D projects?

YES _____ NO _____ DK _____ REF _____
GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

_____

_____

INPUT

10. Are any Ada projects regular or production contracts?

YES _____ NO _____ DK _____ REF _____
GO 16

11. IF YES: Please describe the largest contract project: _____

_____

_____

_____

_____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? %_____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO _____ DK _____ REF _____
GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

_____

_____

_____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

20. How many people are presently proficient in Ada?

_____ DK _____ REF _____

21. What percent of all programmers does this represent?

% _____ DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES _____ NO _____ DK _____ REF _____

23. Why or why not? _____

_____

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

_____ DK _____ REF _____

25. Are you presently doing training in Ada?

YES _____ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # _____

27. Over what period of time does training take place? _____
(weeks, months)

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

_____

_____

_____

29. Does training include software engineering techniques and education?

YES _____ NO _____ DK _____ REF _____

30. Why or why not? _____

_____

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? _____

_____

_____

_____

32. In other civilian federal agencies? _____

_____

_____

_____

33. In the commercial and industrial sectors? _____

_____

_____

_____

34. Do you have any other comments regarding Ada? _____

_____

_____

_____

_____

_____

_____

THANK YOU.

Grumman Data Systems Corporation
250 Crossways Park Drive, Woodbury, NY 11797

SCOTT E. MARKMAN
sr. market research analyst

516-349-5121

542

✓ ①

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y G D S
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 1 5 1 4 8 6 part 1
MM DD YY
5 2 0 8 6 part 2

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☐ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Martin Marietta Data CO. TYPE:

ADDRESS: Box 179 L0423 SALES:
Denver, Colorado NO. EMPL:
80201

INDUSTRY ☐

☐ DISCRETE MANUFACTURING ☐ UTILITIES ☐ INSURANCE
☐ PROCESS MANUFACTURING ☐ RETAIL ☐ GOVERNMENT - FEDERAL
☐ TRANSPORTATION ☐ BANKING ☐ GOVERNMENT - STATE & LOCAL
☐ MEDICAL ☐ WHOLESALE ☐ EDUCATION
☐ SERVICES ☐ OTHER

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Data Information Mr. Robert Lewis	Mgr. Software Education	303-971-6731
Communications Mr. Gary McKee	Staff Engineer for Technology Transfer	303-971-6815

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects?

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL ✓ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: CQ (Command Control) Development System (REF $ + other info)

6. How many people are involved with this project? # 12

7. How many lines of code are associated with this project? # 35 - 40,000

8. Are there any other R&D projects?

YES _____ NO ✓ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

INPUT

10. Are any Ada projects regular or production contracts? – planned only

YES _____ NO _____ DK _____ REF _____

GO 16

11. IF YES: Please describe the largest contract project: In the process of planning projects in the areas of Data Fusion, Space Born Platform and Command Control. About 100 people total will be involved these projects. Can't estimate amount of code or indicate anything further on these.

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? %____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO ✓ DK _____ REF _____

GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

20. How many people are presently proficient in Ada?

70 DK _____ REF _____

21. What percent of all programmers does this represent?

% 10 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? "Because I trained them."

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

140 DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 50 (25 in each type of training)

27. Over what period of time does training take place? (weeks, months) 13-15 weeks

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM) Have several training courses. Two types mainly, ① Full time 13 week course about 500 hours which 75 people have gone through has been offered 4 times so far and uses video tapes. ② An evening course offered for 15 weeks, once a week for 4½ hours which deals with internal syntax - voluntary course.

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? The video tape course does because it deals with life cycle issues of the language.

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? It's a requirement. It's the language I'd choose for all large projects. I don't care to mention particular areas of use.

32. In other civilian federal agencies? NASA will be using Ada for space stations - we advocate its use for these purposes. Don't know about other agencies

33. In the commercial and industrial sectors? Not enough Ada Engineers available for its use to become wide spread in the commercial area.

34. Do you have any other comments regarding Ada? For Command and Control Systems Ada is the best.

THANK YOU.

INPUT

✓ (2)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y G O S
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 5 1 3 8 6
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: PAR Technology (Gvt. Syst) CO. TYPE:

ADDRESS: PAR Technology Park
Room 5
New Hartford, N.Y
13413

SALES:

NO. EMPL:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Mr. Joe Brada	VP PAR Gvt. Systems Corp.	315-738-0600

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects? SEE #5

YES _____ NO ✓ DK _____ REF _____

GO 31

Edit yes

IF YES:

2. Are any of these R&D projects?

YES _____ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL _____ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: Would not consider anything that they are doing a project however they are using Ada as a design aid to document software development in place of PDL. This is external and involves Ford Aerospace.

6. How many people are involved with this project? # 6

7. How many lines of code are associated with this project? # _____

8. Are there any other R&D projects?

YES _____ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

INPUT

10. **Are any Ada projects regular or production contracts?**

YES _____ NO _____ DK _____ REF _____

GO 16

11. IF YES: Please describe the largest contract project: _____

_____

_____

_____

_____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? %_____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO _____ DK _____ REF _____

GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

_____

_____

_____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

20. **How many people are presently proficient in Ada?** to the extent of maturity of the language

12 DK _____ REF _____

21. **What percent of all programmers does this represent?**

% < 10 DK _____ REF _____

22. **Do these people also employ solid software engineering techniques?**

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? Company Policy

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

20 DK _____ REF _____

25. Are you presently doing training in Ada? * A few people are taking courses on their own. At Present they do not offer training but are in the planning stage of offering a course. see #28

YES _____ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # _____

27. Over what period of time does training take place? (weeks, months) _____

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

Plans for training course include an in house class for 20 people taught by a local college professor for six hours a week for 6-8 weeks. Training will not include software engineering techniques.

29. Does training include software engineering techniques and education?

YES _____ NO _____ DK _____ REF _____

30. Why or why not? _____

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Mixed outlook - haven't had enough exposure or experience in this area to comment on.

32. In other civilian federal agencies? If use of Ada is successful in the Department of Defense others will follow (none in particular come to mind). There will be about a 3-5 year lag.

33. In the commercial and industrial sectors? Use of Ada in these sectors is unlikely.

34. Do you have any other comments regarding Ada? Ada is suffering from trying to be too many things to too many people.

THANK YOU.

✓ (3)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. YGDS
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 15 8 86
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Lockheed Corp

CO. TYPE:

ADDRESS: Organization 96-01, B/310
Lockheed
6800 Burleson Road
Austin, Texas

SALES:

NO. EMPL:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Mr. Pat Rich	Advent Manager	512-386 0000

SUMMARY

REFERENCES

Lockheed

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. **Do you currently have any Ada projects?**

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects? 3 R+D projects

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL ✓(2) EXTERNAL ✓(1) DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? Funded outside DK

5. Please describe: (Couldn't break down R+D projects) R+D software tool set being developed, Reusability Study involving Ada, Benchmark testing and tasking

6. How many people are involved with this project? # 17 - for largest

7. How many lines of code are associated with this project? # 200,000 - largest

8. Are there any other R&D projects?

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

INPUT

10. **Are any Ada projects regular or production contracts?**

YES ✓ NO _____ DK _____ REF _____

GO 16

11. IF YES: Please describe the largest contract project: Mill star Ground station portion - still holding on project. CDR slipped a year - not at full scale yet. Other production contracts are Aerospace contracts

when at full scale

12. How many people are involved with this project? # 20-30

13. How many lines of code are associated with this projects? # 1/4 - 1/2 million

14. What % of total Ada contracts does this largest project represent in dollars? % REF

15. What dollar amount does this represents? $ Ref

16. Do you have any other types of Ada projects?

YES _____ NO ✓ DK _____ REF _____

GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

20. How many people are presently proficient in Ada? - 40 in language 10 in design

50 DK _____ REF _____

21. What percent of all programmers does this represent?

% less than 5 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? Ada encourages you to do so, Part of Standards and Practices, Software is developed to documentation requirement, Customer base requires it

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

3-500 DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 10-20

27. Over what period of time does training take place? (weeks, months) 1 month usually

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

Local Ada expert is drafted into teaching a training course and serves as an inhouse consultant. Course is 2-4 hours a day, 4 days a week for up to one month. Its partially held during the workday

29. Does training include software engineering techniques and education?

YES _____ NO ✓ DK _____ REF _____

30. Why or why not? Not important that it be included. Component concentrated.

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Ada's for real, there's an evergrowing requirement that you must give attention to. Air Force is first, then Army + Navy

32. In other civilian federal agencies? NASA, NSA, used for everything technical except real business applications. Aircraft + groundbase - military related uses

33. In the commercial and industrial sectors? Being used more widely in Europe where COBOL is not as pervasive. IBM doesn't provide Ada Capability - limits it's use. Also, most programmers are trained in COBOL and it would require a huge retraining effort.

34. Do you have any other comments regarding Ada? Gaining wider and wider acceptance - very productive - good for integrating separate pieces of code. We've been working with it for 1½ years and have met with good results

THANK YOU.

INPUT

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. M605
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 51386
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☐ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Harris CO. TYPE:

ADDRESS: 505 John Rhodes Blvd SALES:
Building 1 Room 1414 NO. EMPL:
Melbourne, Florida
32925

INDUSTRY ☐

☐ DISCRETE MANUFACTURING ☐ UTILITIES ☐ INSURANCE
☐ PROCESS MANUFACTURING ☐ RETAIL ☐ GOVERNMENT - FEDERAL
☐ TRANSPORTATION ☐ BANKING ☐ GOVERNMENT - STATE & LOCAL
☐ MEDICAL ☐ WHOLESALE ☐ EDUCATION
☐ SERVICES ☐ OTHER

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Greg Saunders	Lead Engineer	315-738-0600

SUMMARY

REFERENCES

Note: Responses are for Software Operations Only (Gvt). This group involves approx. 150 people.

Harris.

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. **Do you currently have any Ada projects?** 6 projects 2 which might be considered R&D

YES ✓ NO _____ (GO 31) DK _____ REF _____

IF YES:

2. Are any of these R&D projects? (2)

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES:

3. Are these projects internal or external?

INTERNAL ✓ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: (1) Graphics System - had 17 people involved at its peak. Details and $ amount are proprietary.

6. How many people are involved with this project? # 6 (present)

7. How many lines of code are associated with this project? # 40,000

8. Are there any other R&D projects?

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: (2) Data Base Oriented VHSIC involves 45 people, internal, 70,000 lines of code. All other details proprietary.

INPUT

10. **Are any Ada projects regular or production contracts?**

YES _____ NO _____ DK ✓ REF _____

GO 16

11. IF YES: Please describe ~~the largest contract project~~: There are four other Scientific Engineering projects - (doesn't consider them production contracts - not sure how to classify) All info on these projects is proprietary.

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? % _____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO _____ DK _____ REF _____

GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

20. How many people are presently proficient in Ada?

100 DK _____ REF _____

21. What percent of all programmers does this represent?

% 75 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? To increase productivity

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

125 DK _____ REF _____

25. Are you presently doing training in Ada? There is no session this week however when class takes place it involves 20 people people at a time.

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 20

27. Over what period of time does training take place? (weeks, months) 2 weeks

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

Training involves 2 courses - Introduction to Ada and Advanced Ada. Each runs for 2 weeks for 40 hours. Taught by internal people.

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? it's important.

INPUT

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Majority of programs will use it. Air Force is pushing it. Will be used for a wide variety of applications, including information processing, embedded systems, graphics, computer security, Data Bases.

32. In other civilian federal agencies? Starting to see use in NSA, CIA, DIA, Joint Deploying efforts. Use will be for Engineering and Scientific Applications, Data Bases and many of the same things as DoD.

33. In the commercial and industrial sectors? Government Only

34. Do you have any other comments regarding Ada? We really like Ada. It's a flexible, powerful high order language. We see no drawbacks.

THANK YOU.

✓ (5)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO.
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 5 88 MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☐ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Titan Systems

CO. TYPE:

ADDRESS: 1950 Gallows Road
Suite 600
Vienna, Virginia
22180

SALES:

NO. EMPL:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Marge Dyer	Operations Manager	703-883-9420

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES _____ NO ✓ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects?

YES _____ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL _____ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

_____

5. Please describe: _____

_____

_____

_____

6. How many people are involved with this project? #_____

7. How many lines of code are associated with this project? #_____

8. Are there any other R&D projects?

YES _____ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

_____

_____

INPUT

10. **Are any Ada projects regular or production contracts?**

YES _____ NO _____ DK _____ REF _____
GO 16

11. IF YES: Please describe the largest contract project: _____

_____

_____

_____

_____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? %____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO _____ DK _____ REF _____
GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

_____

_____

_____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

20. How many people are presently proficient in Ada?

_____ DK _____ REF _____

21. What percent of all programmers does this represent?

% _____ DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES _____ NO _____ DK _____ REF _____

23. Why or why not? _____

_____

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

_____ DK _____ REF _____

25. Are you presently doing training in Ada?

YES _____ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # _____

27. Over what period of time does training take place? _____
(weeks, months)

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

_____

_____

_____

29. Does training include software engineering techniques and education?

YES _____ NO _____ DK _____ REF _____

30. Why or why not? _____

_____

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Seeing more and more RFP's that are requiring use of Ada. Army will be the first big user. - They are laying plans for Ada's use.

32. In other civilian federal agencies? Other agencies will lag behind Department of Defense significantly

33. In the commercial and industrial sectors? No opinion on who, how and when use will take place in this sector. Depends on the Universities

34. Do you have any other comments regarding Ada? We'll have projects within a year (wouldn't specify). Projects will involve about 20 people. Plan to have training using people from the outside.

THANK YOU.

6

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y605
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 4/4/86
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☐ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: IBM (Federal Syst.) CO. TYPE:

ADDRESS: 6600 Rockledge
Bethesda, Maryland
20027

SALES:

NO. EMPL:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Mr. Harley Cloud	Director of Engineering	301-493-1414

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects? – have 6 projects all R+D

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

(3) INTERNAL ✓ (3) EXTERNAL ✓ DK _____ REF _____

For All External

4. IF EXTERNAL: Who else is involved in this R&D project? Government Agencies (would not be more specific)

5. Please describe: R&D Projects include Satellite Control, Space Program, Air Traffic Control, and Application Advanced Signal Processing.

6. How many people are involved with this project? # 4-500 (all projects)

7. How many lines of code are associated with this project? # largest – 1/2 million smallest 20-30,000

8. Are there any other R&D projects?

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: see #5

INPUT

10. Are any Ada projects regular or production contracts?

YES _____ NO ✓ GO 16 DK _____ REF _____

11. IF YES: Please describe the largest contract project: _____

_____

_____

_____

_____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? %____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects? — all R&D

YES _____ NO ✓ GO 20 DK _____ REF _____

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

_____

_____

_____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

20. How many people are presently proficient in Ada?

100 DK _____ REF _____

21. What percent of all programmers does this represent?

% 10 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? There are good reasons for languages to use solid software engineering techniques.

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

300 DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # "hundreds" (wouldn't specify)

27. Over what period of time does training take place? (weeks, months) 2-3 weeks

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

People are trained internally, on company time for 2-3 weeks - during this time they are solely involved in training

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? _____

INPUT

(R very general)

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Will become the Standard Program Language. Ada is in a transition period now. How soon you will see it fully used depends. All new programs will be in Ada.

32. In other civilian federal agencies? If universities pick up Ada you will see it used. Reusable aspect of code will increase its use.

33. In the commercial and industrial sectors? more use as in other areas - can't say specifically

34. Do you have any other comments regarding Ada? Close to DOD - Comes slower than what was anticipated. Good Compiler - has some focus. They have a strong commitment to use Ada.

THANK YOU.

7

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. YGDS
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 4 1 5 8 6
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☑ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Sperry Computer Systems Div. CO. TYPE:

ADDRESS: Sperry Park
Box 64525
St. Paul, Minnesota
55164

SALES:

NO. EMPL.:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Paul Wood	Group Manager	612-456-7300

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects? 3-4 Total

YES ✓ NO _____ (GO 31) DK _____ REF _____

IF YES:

2. Are any of these R&D projects? 3 R&D

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES:

3. Are these projects internal or external?

INTERNAL ✓ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: (1) Hardware Simulation

6. How many people are involved with this project? # 7

7. How many lines of code are associated with this project? # 20,000

8. Are there any other R&D projects?

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: (2) Artificial Intelligence - internal - 2 people - DK lines of code (3) Software Engineering - Acquiring Software tools involves 6 people - very new no code written yet.

INPUT

10. Are any Ada projects regular or production contracts?

YES _____ NO ✓ GO 16 DK _____ REF _____

11. IF YES: Please describe the largest contract project: _____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? % ____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES ✓ NO _____ GO 20 DK _____ REF _____

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: (4) Compiler Development internally

18. How many people are involved with this project? # 20

19. How many lines of code are associated with this projects? # 400,000

INPUT

R. Can only speak for Computer Systems Division
Can't speak for all of sperry

20. How many people are presently proficient in Ada?

150 DK _____ REF _____

21. What percent of all programmers does this represent? Dangerous to look at this way 4000 programmers in total but all will not need Ada

% .5 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? This is done on a project by project basis for R&D

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

3-400 - his group only DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 0 not formally

27. Over what period of time does training take place? (weeks, months) _____

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

A consultant comes in for 2 weeks when needed during work hours

29. Does training include software engineering techniques and education?

YES _____ NO ✓ DK _____ REF _____

30. Why or why not? just Ada - and Object Oriented Development.

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Ada is the Key element of all procurement. Emphasis on Mission Critical Computers. The software Engineering Enviornment requires a great number of code.

32. In other civilian federal agencies? The FAA would use and have an interest.

33. In the commercial and industrial sectors? The commercial and industrial sectors are sitting back. They need major system up grades. They (Sperry) have commercial customers using Ada

34. Do you have any other comments regarding Ada? Ada is a vital Key to the Market place, particularly in the government. It will eventually become a fact in the commercial area

THANK YOU.

(8)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. 7605
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 04 17 96
MM DD YY
4/17/96

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☐ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Softech CO. TYPE:

ADDRESS: 460 Totten Pond Road SALES:
Waltham, Mass NO. EMPL:
02254

INDUSTRY ☐

☐ DISCRETE MANUFACTURING ☐ UTILITIES ☐ INSURANCE
☐ PROCESS MANUFACTURING ☐ RETAIL ☐ GOVERNMENT - FEDERAL
☐ TRANSPORTATION ☐ BANKING ☐ GOVERNMENT - STATE & LOCAL
☐ MEDICAL ☐ WHOLESALE ☐ EDUCATION
☐ SERVICES ☐ OTHER

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Charlie Caulfin	General Manager of Ada Division	617-890-6900

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES ✓ NO _____ (GO 31) DK _____ REF _____

IF YES:

2. Are any of these R&D projects? 2

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES:

3. Are these projects internal or external?

INTERNAL ✓ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: Both are real time embedded systems (wouldn't go into further detail)

6. How many people are involved with this project? # 2-3 people for each project

7. How many lines of code are associated with this project? # 1,000 for each project

8. Are there any other R&D projects?

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: See above

INPUT

several projects which are considered as one

10. Are any Ada projects regular or production contracts?

YES ✓ NO _____ DK _____ REF _____

GO 16

11. IF YES: Please describe the largest contract project: Develop an Ada Language System for Army + Navy + Airforce Contract. Largest is with the Army

12. How many people are involved with this project? # 150 total

13. How many lines of code are associated with this projects? # 3/4 million lines

14. What % of total Ada contracts does this largest project represent in dollars? % ____

15. What dollar amount does this represents? $ 20 million

16. Do you have any other types of Ada projects?

YES _____ NO ✓ DK _____ REF _____

GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

20. How many people are presently proficient in Ada?

150 DK _____ REF _____

21. What percent of all programmers does this represent?

% 60 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? they are not much good without them

24. In total, how many people are expected to be proficient in Ada by the end of 1987? can't estimate

_____ DK ✓ REF _____

25. Are you presently doing training in Ada? only new employees

YES _____ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # none at present

27. Over what period of time does training take place? (weeks, months) 2-3 week - (1/2) half time

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

Training Courses which are marketed - they give training seminars on Ada

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? Some include software engineering techniques, while others are purely Ada.

INPUT

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? They are committed to use it. You'll see it more and more. In the next few years it will escalate.

32. In other civilian federal agencies? Not quite as committed as DoD. NASA making the most use.

33. In the commercial and industrial sectors? Don't see a lot of interest.

34. Do you have any other comments regarding Ada? Has increased our productivity. Staff enjoys using Ada. Extremely effective.

THANK YOU.

INPUT

(9)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y G D S
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 4 2 1 8 6
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW:
- ☐ VENDOR
- ☑ USER
- ☑ TELEPHONE
- ☐ ON-SITE
- ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Planning Research

CO. TYPE:

ADDRESS: 1500 Planning Research Drive
Mailstop 2S1A
McLean, Virginia
22102

SALES:

NO. EMPL.:

INDUSTRY ☐

- ☐ DISCRETE MANUFACTURING
- ☐ PROCESS MANUFACTURING
- ☐ TRANSPORTATION
- ☐ MEDICAL
- ☐ SERVICES
- ☐ UTILITIES
- ☐ RETAIL
- ☐ BANKING
- ☐ WHOLESALE
- ☐ OTHER
- ☐ INSURANCE
- ☐ GOVERNMENT - FEDERAL
- ☐ GOVERNMENT - STATE & LOCAL
- ☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Dr. Anne Reedy	Senior Technical Staff	703-556-2136

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. **Do you currently have any Ada projects?**

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects? not at this location

YES _____ NO ✓ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL _____ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

_____

5. Please describe: _____

_____

_____

_____

6. How many people are involved with this project? # _____

7. How many lines of code are associated with this project? # _____

8. Are there any other R&D projects?

YES _____ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

_____

_____

INPUT

(Project Responses are for Government Information systems, while training responses can be considered company wide.)

10. **Are any Ada projects regular or production contracts?** - 3 production contracts

YES ✓ NO _____ (GO 16) DK _____ REF _____

11. IF YES: Please describe the largest contract project: The largest is an external production with the Navy using Ada with a Data Base Management System.

12. How many people are involved with this project? # 3

13. How many lines of code are associated with this projects? # 40,000

14. What % of total Ada contracts does this largest project represent in dollars? % DK

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES ✓ NO _____ (GO 20) DK _____ REF _____

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: Two other production contracts - An internal project involving the development of software tools in the planning stage. Also an external DoD contract for Ada programing just being developed (no specifics on either)

18. How many people are involved with this project? # DK for either

19. How many lines of code are associated with this projects? # DK for either

INPUT

20. How many people are presently proficient in Ada? (company wide)

90 DK _____ REF _____

21. What percent of all programmers does this represent?

% _____ DK ✓ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? We hope so - it's important tous

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

250 DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 15

27. Over what period of time does training take place? (weeks, months) 1-2 month sessions

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

Training involves an inhouse course taught in two sections, The first section meets for 8 times twice a week, The second session meets for 16 times twice a week. Sessions are 2 hours each

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? Ada training includes it but there are also addition courses just for software engineering techniques.

INPUT

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? We're bidding 3-4 projects at the present time for doing work with the army, navy, Air force. We're reviewing proposals now.

32. In other civilian federal agencies? NASA will be using it heavily. There is an RFP that will require it.

33. In the commercial and industrial sectors? Large Manufacturer like G-E will use it for embedded micro-computers.

34. Do you have any other comments regarding Ada? We see it being used a lot internally. Proposals are coming in rather heavily

THANK YOU.

(10)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. M6D3
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 9/16/86
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☑ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Boeing

CO. TYPE:

ADDRESS: Boeing Commercial Air
Box 3707
Mail stop 7721
Seattle Washington 98124

SALES:

NO. EMPL:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Mr. Brian Fluke	Software Manager (Avionics)	206-237-3077

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

Answers are for Commercial Division Only

1. Do you currently have any Ada projects?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects? R not sure how to classify project

YES _____ NO _____ DK ✓ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL ✓ EXTERNAL _____ DK _____

edited as R+D

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: One main 4 billion dollar project is divided into 5 avionic sub systems for the preliminary design of 60-100 aircrafts over a 7 year period. Configural prototyping of subsystems will enter development in 5 yr.

6. How many people are involved with this project? # 150

7. How many lines of code are associated with this project? # 40-100 thousand (8 thousand per subsystem)

8. Are there any other R&D projects?

YES _____ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

Other projects might be going on in other divisions

10. Are any Ada projects regular or production contracts? — not yet in this division.

YES _____ NO _____ DK _____ REF _____
GO 16

11. IF YES: Please describe the largest contract project: _____

_____

_____

_____

_____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? % ____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO _____ DK _____ REF _____
GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

_____

_____

_____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

Commercial Division Only

20. How many people are presently proficient in Ada?

25 DK _____ REF _____

21. What percent of all programmers does this represent?

% 10 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? The traditional FORTRAN People want to be state of the art. Not all 230 software engineers use solid software techniques

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

125-150 DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 5 people per month

27. Over what period of time does training take place? (weeks, months) Depends see #28

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

2 internal courses - a video course which takes 25 hrs and a PC course which runs for 1 week approximately 60 hour course

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? Depends on the individual.

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? The future is bright if there are good compilers in particular for embedded mission critical projects. Programs won't switch midstream. They only come come out with planes every 8-10 years and if Ada isn't used initially for project it's many years before it has a chance to be used again.

32. In other civilian federal agencies? Will be used for Embedded Computing Systems in the areas of Transportation and Communications.

33. In the commercial and industrial sectors? Commercial Avionics - Working towards standards in the industry Will also be used by refineries for gasoline monitering systems.

34. Do you have any other comments regarding Ada? Availability of compilers are crucial. Not sure about future of compilers in this language.

THANK YOU.

(11)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y605
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 41486
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☑ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: McDonnell Douglas CO. TYPE:

ADDRESS: PO. Box 516 Dept. E415 SALES:
Building 106 Room 283 NO. EMPL:
St. Louis, Missouri
63116

INDUSTRY ☐

☐ DISCRETE MANUFACTURING ☐ UTILITIES ☐ INSURANCE
☐ PROCESS MANUFACTURING ☐ RETAIL ☐ GOVERNMENT - FEDERAL
☐ TRANSPORTATION ☐ BANKING ☐ GOVERNMENT - STATE & LOCAL
☐ MEDICAL ☐ WHOLESALE ☐ EDUCATION
☐ SERVICES ☐ OTHER

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Mr. Marv Czarnick	Chief Electronics Engineer	314-232-0232 1011

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES ✓ NO _____ (GO 31) DK _____ REF _____

IF YES:

2. Are any of these R&D projects? 2 of them - one internal one external

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES:

3. Are these projects internal or external?

INTERNAL 1 EXTERNAL 1 DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? (England) Air Force Base

5. Please describe: (External) Development of Reusable software parts for tactical projects

6. How many people are involved with this project? # 4

7. How many lines of code are associated with this project? # 30,000 - Executable

8. Are there any other R&D projects?

YES ✓ NO _____ (GO 10) DK _____ REF _____

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: (Internal) Development of software cost estimating programs - done in Ada its transportable to most areas. One person directly involved with project. Lines of code is 6K Both R+D projects total 2 million dollars.

INPUT

10. Are any Ada projects regular or production contracts? not yet

YES _____ NO ✓ (GO 16) DK _____ REF _____

11. IF YES: Please describe the largest contract project: _____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? % _____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES ✓ NO _____ (GO 20) DK _____ REF _____

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: Computer Based Training in Ada - Internal DK $ Amount or any other specifics

18. How many people are involved with this project? # 1

19. How many lines of code are associated with this projects? # DK

INPUT

20. How many people are presently proficient in Ada?

100-125 - calls these people designers DK _____ REF _____

21. What percent of all programmers does this represent?

% 50 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? They have company practices that follow sound software techniques and Government Specs require it.

24. In total, how many people are expected to be proficient in Ada by the end of 1987? 80%

200 DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 50

27. Over what period of time does training take place? (weeks, months) 2 week intensive program

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

They bring in nationally known experts to teach.

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? Software engineering techniques are taught to these same people in addition, not necessarily as a part of Ada training.

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? By the end of 1987 all operation software will be done in Ada — All embedded flight software and ground CQ for airforce, navy and army

32. In other civilian federal agencies? Large percent of Ada applications in the U.S. Post Office, Medical Systems. Revsable software, Ada Compiler, and cross assembler produce a cost savings.

33. In the commercial and industrial sectors? Use of special Processors would limit use of Ada here. DK of specific areas where Ada might be used.

34. Do you have any other comments regarding Ada? First high-ordered langvage developed in the last several years. DOD led the way with sponsored R+D. Will be long lived as opposed to CMS2 and Jovial. Ada offers an opportunity for Cost reduction in software development primarily through revsable rehosted software.

THANK YOU.

INPUT

(12)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y6D5
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 4 1 1 8 6
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☑ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Computer Science Corp. CO. TYPE:

ADDRESS: 6565 Arlington SALES:
Mailcode 211 NO. EMPL.:
Falls Church, Virginia
22046

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Mr. Wayne Kelly	Manager of Market Research	703-237-2000
Vic Schlappie		609 234 1100

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects? all Ada projects are R&D DK # of projects

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL _____ EXTERNAL ✓ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

Federal Government - Navy

5. Please describe: Task Order Agreement - Navy Weapon Project

6. How many people are involved with this project? # 5-10

7. How many lines of code are associated with this project? # DK

8. Are there any other R&D projects?

YES _____ NO _____ DK ✓ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

INPUT

10. Are any Ada projects regular or production contracts?

YES _____ NO ✓ GO 16 DK _____ REF _____

11. IF YES: Please describe the largest contract project: _____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? % _____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES ✓ NO _____ GO 20 DK _____ REF _____

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: Internal Ada Compiler

18. How many people are involved with this project? # DK

19. How many lines of code are associated with this projects? # DK

INPUT

20. How many people are presently proficient in Ada?

100 DK _____ REF _____

21. What percent of all programmers does this represent?

% less than 5 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? people are trained to employ these techniques

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

200 DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # 30 -40

27. Over what period of time does training take place? (weeks, months) 2-3 months

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

Intensive internal Company Program on off work hours - 6 hours per week for 2-3 months.

29. Does training include software engineering techniques and education?

YES _____ NO _____ DK ✓ REF _____

30. Why or why not? _____

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? More effort is being made in communications. More programs will be awarded in government fiscal year 87-89

32. In other civilian federal agencies? Don't see much use at all - not an issue.

33. In the commercial and industrial sectors? Not familiar with its use in this area.

34. Do you have any other comments regarding Ada? A lot of qualified people in Ada in the Department of Defense. Exemptions were being made in weapons programs. Now that there are compilers not any reasons for exemptions.

THANK YOU.

(13)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y6DS
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 4 1 4 8 6
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☑ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Intermetrics

ADDRESS: 733 Concord Ave,
Cambridge, Mass.
02138

CO. TYPE:

SALES:

NO. EMPL.:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Mike Ryer	Director of Ada Systems	617-661-1840

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects? 2 R+D

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

(1) INTERNAL ✓ (1) EXTERNAL ✓ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

Government DOD

5. Please describe: Software tools including compiler - some Application Flight Software

6. How many people are involved with this project? # 8

7. How many lines of code are associated with this project? # Few Thousand

8. Are there any other R&D projects?

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: see above

INPUT

10. Are any Ada projects regular or production contracts? 6 of them

YES ✓ NO _____ (GO 16) DK _____ REF _____

11. IF YES: Please describe the largest contract project: all production contracts are for Ada Compilers and programming.

30 people on largest project

12. How many people are involved with this project? # 80 people on all projects

13. How many lines of code are associated with this projects? # 500,000 on largest proj 3 million all projects

14. What % of total Ada contracts does this largest project represent in dollars? % 20

15. What dollar amount does this represents? $ REF

16. Do you have any other types of Ada projects?

YES ✓ NO _____ (GO 20) DK _____ REF _____

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: Independent verification and validation contract - external (wouldn't say $ Amount or whom).

18. How many people are involved with this project? # 15

19. How many lines of code are associated with this projects? # we review the code of others about 1/2 to 1 million lines

INPUT

20. How many people are presently proficient in Ada?

80 DK _____ REF _____

21. What percent of all programmers does this represent?

% 25 DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? it makes sense

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

150 DK _____ REF _____

25. Are you presently doing training in Ada? – not formally see #28

YES _____ NO ✓ (GO 31) DK _____ REF _____

IF YES:

26. How many people are being trained in Ada? # _____

27. Over what period of time does training take place? (weeks, months) _____

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

People are given time to learn on their own.

29. Does training include software engineering techniques and education?

YES _____ NO _____ DK _____ REF _____

30. Why or why not? _____

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? The outlook is very positive for real time embedded systems – that's where it's needed most – least status quo to overcome. In DOD in 3-4 years Ada will hit its peak.

32. In other civilian federal agencies? Ada will be used for real time embedded systems, specifically, NASA will use it, but it will be used across the board in 4-6 years

33. In the commercial and industrial sectors? Very uncertain of use in the commercial + industrial sectors. Will be used again for realtime embedded systems and Commercial Data Processing area.

34. Do you have any other comments regarding Ada? We're happy with it.

THANK YOU.

(14)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. Y C D S
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 4 1 8 8 6
MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☐ USER ☐ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: BDM

CO. TYPE:

ADDRESS: 7915 Jones Branch
McLean, Virginia
22102

SALES:

NO. EMPL:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Larry Reeker,	Senior Principal for Advanced Technology	703-848-5010 (his)
		703 821 5000 (co)

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects? 2 projects

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects?

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL ✓ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: Provide Artificial Intelligence Facilities - Packages → Pattern Direct Packaging, LISP Packages instead of interpreters - Project involves approx. $20 thousand Was funded by the National Science Foundation and the Airforce

6. How many people are involved with this project? # 3

7. How many lines of code are associated with this project? # 1,000 - some coding done in LISP

8. Are there any other R&D projects?

YES ✓ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: General Ada Work station Project Non textual environment in producing. 3 people involved in design portion - not underway yet. No lines of Ada Code - written in Pascal or C.

INPUT

10. Are any Ada projects regular or production contracts?

YES _____ NO ✓ DK _____ REF _____

GO 16

11. IF YES: Please describe the largest contract project: _____

_____

_____

_____

_____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? %____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO ✓ DK _____ REF _____

GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

_____

_____

_____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

Refers to D.C. office.

20. How many people are presently proficient in Ada?

3 DK _____ REF _____

21. What percent of all programmers does this represent?

% _____ DK ✓ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? _____

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

100 DK _____ REF _____

25. Are you presently doing training in Ada?

YES _____ NO ✓ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # _____

27. Over what period of time does training take place? _____
(weeks, months)

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

29. Does training include software engineering techniques and education?

YES _____ NO _____ DK _____ REF _____

30. Why or why not? _____

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Just Catching On Surprisingly slow - lack of good compilers In 3 years Ada will start exploding especially for embedded software. Universities need to generated a pool of educated people in Ada. Air force doing Data Processing in Ada.

32. In other civilian federal agencies? Good - Once it catches on in Universities and people are skilled and there is greater availability of compilers. Specific users would be NASA, and the Dept. of Energy. The others are using COBOL

33. In the commercial and industrial sectors? Once it catches on in DoD, Artificial Intelligence techniques will become a permanent part of computing. It will be used in Defense related industries, Air and space, Auto Industry and any place that uses simulation.

34. Do you have any other comments regarding Ada? Ada is like SIMULAR 67. The more graphically and object oriented Systems have moved beyond Ada to direct interaction with screens. Ada's good.

THANK YOU.

Partial - need to speak with Steve Beride next week

15

INPUT QUESTIONNAIRE

CATALOG. NO. Y G D S
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES MM DD YY

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☑ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: Hughes EO/E52 D221 CO. TYPE:

ADDRESS: EDSG SALES:
Box 902 NO. EMPL:
2141 East Rosencrantz
El Segundo, California 90245

INDUSTRY ☐

☐ DISCRETE MANUFACTURING ☐ UTILITIES ☐ INSURANCE
☐ PROCESS MANUFACTURING ☐ RETAIL ☐ GOVERNMENT - FEDERAL
☐ TRANSPORTATION ☐ BANKING ☐ GOVERNMENT - STATE & LOCAL
☐ MEDICAL ☐ WHOLESALE ☐ EDUCATION
☐ SERVICES ☐ OTHER

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Paul Slavich	Section Head	213-568-7200
Steve Beride	Senior Staff Engineer	213-616-3702

SUMMARY

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects? 1 building real time code

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

2. Are any of these R&D projects? not sure if it would be considered R+D - probably production see #10.

YES _____ NO _____ DK ✓ REF _____

GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL _____ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

5. Please describe: _____

6. How many people are involved with this project? #_____

7. How many lines of code are associated with this project? #_____

8. Are there any other R&D projects?

YES _____ NO _____ DK _____ REF _____

GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

10. Are any Ada projects regular or production contracts?

YES ✓ NO _____ DK _____ REF _____

GO 16

11. IF YES: Please describe the largest contract project: The project is external with the Army - its an application involving Target Recognizer Tracker for 2 year time period. Project involves 1+ million dollars

12. How many people are involved with this project? # 5

13. How many lines of code are associated with this projects? # 20,000

14. What % of total Ada contracts does this largest project represent in dollars? %____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO _____ DK _____ REF _____

GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

20. How many people are presently proficient in Ada?

_____ DK _____ REF _____

21. What percent of all programmers does this represent?

% _____ DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES _____ NO _____ DK _____ REF _____

23. Why or why not? _____

_____

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

_____ DK _____ REF _____

25. Are you presently doing training in Ada?

YES _____ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # _____

27. Over what period of time does training take place? _____
(weeks, months)

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

_____

_____

_____

29. Does training include software engineering techniques and education?

YES _____ NO _____ DK _____ REF _____

30. Why or why not? _____

_____

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? Coming to Pass

32. In other civilian federal agencies?

33. In the commercial and industrial sectors? Will start seeing Ada use for anything with FORTRAN

34. Do you have any other comments regarding Ada? Young, bright Engineers want to use Ada instead of Jovial.

THANK YOU.

(6)

CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO. MC-05
SIC. CODE
SIZE CODE
AREA CODE
STUDY CODE
DATES 4/16/86 (MM DD YY)

STUDY TITLE:
TYPE OF INTERVIEW: ☐ VENDOR ☑ USER ☑ TELEPHONE ☐ ON-SITE ☐ MAIL

INTERVIEWER: Lisa Percy

COMPANY: TRW

CO. TYPE:

ADDRESS: One Space Park
Mail stop R2/1134
Redondo Beach, California
90278

SALES:

NO. EMPL:

INDUSTRY ☐

☐ DISCRETE MANUFACTURING
☐ PROCESS MANUFACTURING
☐ TRANSPORTATION
☐ MEDICAL
☐ SERVICES
☐ UTILITIES
☐ RETAIL
☐ BANKING
☐ WHOLESALE
☐ OTHER
☐ INSURANCE
☐ GOVERNMENT - FEDERAL
☐ GOVERNMENT - STATE & LOCAL
☐ EDUCATION

INTERVIEWS

NAME	TITLE	TELEPHONE NO.
Tony Alden	MTS	213-535-1624
Hal Hart		213-535-4321 (main)
		7050 his

SUMMARY

partial - need to speak with Hal Hart - out til Monday

REFERENCES

4/11/86

FINAL

Ada Questionnaire

VERSION 1.2

Good morning (afternoon). This is _____ calling from INPUT, an international research and planning firm. We are currently involved in a study on Ada Projects. We would like to ask you some questions about your activities. Of course we seek no proprietary or classified information so please answer questions or decline answering with this in mind. In return for your cooperation we will send you a summary of the study so you may compare your activities with those of similar organizations. May we begin? Thank you.

1. Do you currently have any Ada projects?

YES _____ NO _____ DK _____ _____
GO 31

Q1 Edit Yes

IF YES:

2. Are any of these R&D projects?

YES _____ NO _____ DK _____ REF _____
GO 10

IF YES:

3. Are these projects internal or external?

INTERNAL _____ EXTERNAL _____ DK _____ REF _____

4. IF EXTERNAL: Who else is involved in this R&D project? _____

_____

5. Please describe: _____

_____

_____

_____

6. How many people are involved with this project? #_____

7. How many lines of code are associated with this project? #_____

8. Are there any other R&D projects?

YES _____ NO _____ DK _____ REF _____
GO 10

IF YES: (INT: PROBE: INTERNAL, EXTERNAL, $AMOUNT)

9. Please describe: _____

_____

_____

10. Are any Ada projects regular or production contracts?

YES _____ NO _____ DK _____ REF _____
GO 16

11. IF YES: Please describe the largest contract project: _____

_____

_____

_____

_____

12. How many people are involved with this project? # _____

13. How many lines of code are associated with this projects? # _____

14. What % of total Ada contracts does this largest project represent in dollars? %____

15. What dollar amount does this represents? $ _____

16. Do you have any other types of Ada projects?

YES _____ NO _____ DK _____ REF _____
GO 20

(INT: PROBE: INTERNAL, EXTERNAL - WHOM, $AMOUNT)

17. IF YES: Please describe: _____

_____

_____

_____

18. How many people are involved with this project? # _____

19. How many lines of code are associated with this projects? # _____

INPUT

3 digit #

20. How many people are presently proficient in Ada?

_____ DK _____ REF _____

21. What percent of all programmers does this represent?

% _____ DK _____ REF _____

22. Do these people also employ solid software engineering techniques?

YES ✓ NO _____ DK _____ REF _____

23. Why or why not? _____

24. In total, how many people are expected to be proficient in Ada by the end of 1987?

_____ DK _____ REF _____

25. Are you presently doing training in Ada?

YES ✓ NO _____ DK _____ REF _____

GO 31

IF YES:

26. How many people are being trained in Ada? # _____

27. Over what period of time does training take place? _____
(weeks, months)

28. What mode of training is employed? (INT: FIND OUT WHETHER TRAINING INVOLVES COURSE OR COMPANY PROGRAM)

Internal and External training course - Internal - 12 weeks for 3 hours total 36 hours given after work hours. External Courses offered at California State at Long Beach.

29. Does training include software engineering techniques and education?

YES ✓ NO _____ DK _____ REF _____

30. Why or why not? Teach engineering techniques anyway.

INPUT

31. What is you general outlook for use of Ada: (INT: PROBE FOR SPECIFIC AREAS, WHEN, WHOM, WHY)

In the Department of Defense? The Use of Ada in the DOD is excellent for any project, but the larger the project the better suited for Ada.

32. In other civilian federal agencies? Slightly less than DOD. NASA will use.

33. In the commercial and industrial sectors? In Europe Ada is widely used for Data Bases and Business.

34. Do you have any other comments regarding Ada? Once Product compilers become reliable and speedy, use will geometrically increase.

THANK YOU.

April 3, 1986 Rcv'd 4/9/86

TO: Rick Brusuelas
Bonnie Digrius
Mike Dishman
Don Fostle
John Frank
David Lipson
Randi Paul

FROM: Pete Cunningham

SUBJECT: GRUMMAN DATA SYSTEMS

Please find attached a copy of the GDSC contract. Please digest and take responsibility and action as appropriate.

- John Frank is the manager for INPUT of the consulting services component.

- Bonnie - note the special MAPS requirements - contact them.

- Rick - note the special CSP requirements - contact them.

Thanks.

Corporation
1000 Woodbury Road, Woodbury, NY 11797

PURCHASE ORDER NO. 99-22552

SCHEDULE SCHEDULE IS DEFINED AS THE FACE OF THE PURCHASE ORDER, CONTINUATION SHEETS AND AMENDMENTS.

AMENDMENT WHEN BOX IS MARKED X	AMENDMENT NO.	DATE
☐ MAKE CHANGES IN THIS PURCHASE ORDER AS INDICATED BELOW. IN ALL OTHER RESPECTS ORDER REMAINS AS ORIGINALLY WRITTEN OR PREVIOUSLY REVISED.		3/25/86

USED ON	FOB DESTINATION (UNLESS OTHERWISE INDICATED)

REQUISITION NO.	TERMS	PRIORITY
A061425		

Input
I2205 1943 Landings Drive
SELLER Mountain View, California 94043
-1-

ATTN: Mr. Peter A. Cunningham

EACH SHIPMENT MUST BE ACCOMPANIED BY A PACKING LIST SHOWING SELLER'S NAME, THIS P.O. NO. AND THE PROPER GRUMMAN ITEM NUMBER(S), PART NUMBER(S), REVISION INDEX IF ANY, AND APPLICABLE JOB PRIMARY NUMBER(S). MARK ALL SHIPMENTS WITH PURCHASE ORDER NUMBER, ITEM NUMBER AND GDS DESTINATION. PACK IN ACCORDANCE WITH BEST COMMERCIAL PRACTICE UNLESS OTHERWISE SPECIFIED.

THE PRICES SET FORTH HEREIN INCLUDE ALL TAXES APPLICABLE TO THE SALE OF SUPPLIES, BUT SUCH TAXES MUST BE SET FORTH AND IDENTIFIED SEPARATELY ON INVOICES.
ALL INVOICES TO: GRUMMAN DATA SYSTEMS CORPORATION, ACCOUNTING DEPARTMENT, P.O. BOX 5120, HUNTINGTON, N.Y. 11721.
DELIVERIES IN EXCESS OF QUANTITY(S) ORDERED WILL BE RETAINED BY GRUMMAN AT NO COST. DELIVERIES 10% OVER OR UNDER THE QUANTITY(S) SPECIFIED WILL BE ALLOWED ONLY WHEN BOX IS MARKED X ☐

SHIP TO VIA

DELIVERY	DATE	QUANTITY	DATE	QUANTITY	DATE	QUANTITY	DATE	QUANTITY
REQUIRED AT GDS								
AGREED SCHEDULE								

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	JOB—PRI	TAX CODE	UNIT PRICE
			CONFIRMATION DO NOT DUPLICATE CONSULTING SERVICES			
			SECTION A MATERIAL AND/OR SERVICES TO BE FURNISHED: (As Delineated under Section C)			
1.			Market Analysis and Consulting Services	0170-080 0170-383	2 2	$50,000.00 $10,000.00
			THE TOTAL PRICE OF THIS PURCHASE ORDER SHALL NOT EXCEED:.....			$60,000.00
			SECTION B PERIOD OF PERFORMANCE:			
			The period of performance for the services specified under Section A of this Purchase Order			

BUYER	TELEPHONE—AREA CODE 516	RECEIVING DELIVER TO
E. L. Nathan/fh	575 682-8739	VIA

THE CONDITIONS OF PURCHASE ARE SET FORTH ON THE REVERSE SIDE HEREOF.
☐ WHEN BOX IS MARKED X, THE CONDITIONS OF PURCHASE ON THE REVERSE SIDE HEREOF ARE DELETED IN THEIR ENTIRETY AND THE CONDITIONS OF PURCHASE CONTAINED IN FORM GDS 33 ATTACH. 1 _____

DATED _____ ARE, BY THIS REFERENCE, INCORPORATED INTO THIS PURCHASE ORDER AND SHALL GOVERN SAME.
AGREEMENT TO FURNISH THE SUPPLIES OR COMMENCING PERFORMANCE OR SHIPMENT SHALL BE ACCEPTANCE OF THIS ORDER NOTWITHSTANDING ANY PROPOSAL BY THE SELLER OF ADDITIONAL OR DIFFERENT TERMS WHICH SHALL NOT BECOME A PART OF THIS ORDER UNLESS AGREED TO IN WRITING.
IF THE AMOUNT OF THIS ORDER IS OVER $10,000, PLEASE SIGN AND RETURN THE ACCEPTANCE COPY IMMEDIATELY.

☐ TAXABLE ☒ NON-TAXABLE NEW YORK STATE SALES TAX EXEMPTION CERTIFICATE: GRUMMAN DATA SYSTEMS CORPORATION (REG. 11-2192399)

GRUMMAN DATA SYSTEMS CORPORATION

A. J. Pope
Asst. Director of Material
~~A. FREDERICK GOLDBERG~~
~~DIRECTOR OF MATERIAL~~

(continued on page 2)

GDS 33 REV. 5 11-84

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	I-T	JOB-PRI	TAX CODE	UNIT PRICE
			SECTION B (Continued)				
			shall commence on or about 1 January 1986 and continue through 31 December 1986.				
			SECTION C DESCRIPTION OF TASKS:				
			1. The services specified under Section A of this Purchase Order shall be supplied during the time period shown under Section B.				
			2. Seller shall provide the following:				
			Company Analysis and Monitoring Service -Hotline				
			o Hotline and special company profiles will be handled from INPUT's Washington office as prime support on government vendors. Vendor Financial Watch and commercial support services will be supplied by INPUT's Mountain View, California office. GDS will receive all the profiles relevant to its business.				
			INPUT will specifically produce up to 20 profiles on government vendors for GDS. The responsible INPUT staff allocated are:				
			- Washington, D. C.-Charles (Chuck) Waser, Senior Consultant				
			- Mountain View, Ca.-Randi Paul, Vice President				
			The fee for the service will be $10,000 with the reduction in use of standard services offset by the special support from Washington.				

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	I-T	JOB-PRI	TAX CODE	UNIT PRICE
			o Market Analysis and Planning Service The basic service will include software and professional services forecasts, annual presentation, support, two quarterly research projects (from the software and professional services program; however, we can substitute one or more projects from the processing turnkey programs if we wish). In addition, INPUT will produce forecasts to support Grumman's, a) ISI Group in property and casualty insurance, b) CIM activity. This research will include interviews in each area of vendors and users. The total number of such interviews will be about 70. Grumman will help specify questions and interview targets. Support in this area will be provided through Mountain View, California. Key contact is Bonnie Digrius, Senior Consultant. The fee for this service will be $19,500, including the special services which account for $10,000 of this amount. o Customer Service Program The basic service will include support from the Mountain view, California office of INPUT and reports on third-party maintenance. Also included will be monthly service reports. To support Grumman's specific needs, INPUT will interview federal government agencies that we suggest. Support in this area will be provided through John Erlandson (Program Manager) at INPUT's Mountain View office and Chuck Waser in Washington (who will arrange federal government interviews). The fee for this service is $9,500 including up to 25 agency interviews.				

ITEM NO	QUANTITY	UNIT	DESCRIPTION	I-T	JOB-PRI	TAX CODE	UNIT PRICE

- Federal Government Information Systems and Services Program (FISSP)

  In addition to the standard FISSP service, INPUT will provide special consulting and support on specific issues through its Washington office. For example, INPUT will provide support on the ADA project in answering questions within the normal scope of the Hotline activity. Additional research will be handled via the sonsulting services described below.

  This research and support will be provided through John Frank, Vice President in charge of the Washington office.

- Consulting Services

  INPUT will provide research and support through any and all of its offices for planned GDS research projects and those that will occur during the year.

  These consulting services will be provided on formal request by GDS to John Frank, INPUT's Vice President in Washington. Schedules and scope of work will be agreed before any task is commenced. In order to satisfy the on-demand nature of such requests, oral agreements will be satisfactory.

  INPUT will make a monthly statement of activity under this section of the contract to GDS. Any expenses incurred for travel and other items will be approved by GDS in advance and be billed monthly.

  Consulting services will normally be provided from Washington, D. C.; however, it may be appropriate at times to use New Jersey, California, or U. K. staff. Consulting services may include:

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	I-T	JOB-PRI	TAX CODE	UNIT PRICE

Consulting Services (Continued):

- Market analysis
- Pricing analysis
- Competitive analysis
- Technology plans
- Agency analysis
- Acquisition search
- Due Diligence
- Customer satisfaction surveys

Fee for Special Services Package for GDS

The fee for this service will be $60,000 and is calculated as follows:

Program Services

CAMS	$10,000	
MAPS-Standard	9,500	
-Special Services (or alteratives)	10,000	
CSP-(including special services)	9,500	
FISSP	25,000	
Subtotal		$64,000
Less 25% discount for multiple programs (including allowance for FISSP)		16,000
		$48,000

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	I-T	JOB-PRI	TAX CODE	UNIT PRICE

Consulting Services

Person	Normal Billing Rate ($ Per Day)	Special GDS Rates ($ Per Day)
Peter Cunningham, President	$2,500	$2,000
John Frank, Vice President	1,500	1,200
Don Fostle, Vice President	1,500	1,200
Senior Consultant	1,250	1,000
Research Analysts	625	500

Total amount available to be used at combination of resource and labor rates given above on an as used basis.....$12,000

SECTION D SPECIAL CONDITIONS:

1. All correspondence, summaries, packing slips, invoices, etc. shall have the applicable Purchase Order, Amendment, Authorization Book, Contract and Job Numbers affixed. FAILURE TO DO SO WILL DELAY PAYMENT.

2. In no event shall the Seller exceed the Dollar Limitation specified in Section A without prior written consent of the Grumman Data Systems Director of Material.

3. Invoices;

   a. All invoices shall be forwarded to GDSC, Accounting Department, P. O. Box 2200, Bethpage, New York 11714.

   b. All invoices shall be approved by Mr. J. O'Brien or his designee.

Corporation
5000 Woodbury Road, Woodbury, NY 11797

PURCHASE ORDER CONTINUATION

SCHEDULE

SELLER Input

PAGE	PURCHASE ORDER NO.
7 OF 7	88-22552
	AMENDMENT NO.

ITEM NO	QUANTITY	UNIT	DESCRIPTION	I-T	JOB-PRI	TAX CODE	UNIT PRICE
			4. Grumman herein reserves the right to terminate this Purchase Order in its entirety or any portion thereof, giving thirty (30) days written notice.				

GDS 34 REV. 3 8-83

GTEDS GROWTH STRATEGIES

	1981	1982	1983	1984	1985	1986
20% GROWTH	9.5	11.4	13.7	16.4	19.7	23.6
30% GROWTH	9.5	12.3	16.0	20.8	27.1	32.5
25% GROWTH WITH $5M ACQUISITION IN '83 & '85	9.5	11.9	19.2	24.0	35.0	43.8
25% GROWTH WITH $5M ACQUISITION IN '83, '84, '85 AND $10 ACQUISITION IN '86	9.5	11.9	19.2	29.0	41.3	61.6
30% GROWTH WITH $5M ACQUISITION IN '83, '84 AND $10M ACQUISITION IN '85 AND '86	9.5	12.3	21.0	32.3	52.0	77.6

INPUT

CLOSING COMMENTS

- SUCCESSFUL COMPANIES:
  - START WHERE THEY ARE.
  - AVOID DISTRACTIONS.
  - SPECIALIZATION IN THE UNGLAMOROUS.
  - DISPLAY CONTINUITY AND COHERENCE IN THEIR CORPORATE PHILOSOPHY.

BASIC PLAN FOR GTEDS - (continued)

PART 3: CHART LONG-RANGE STRATEGIC DIRECTION.

- EXAMINE SOFTWARE DEVELOPED BY OTHER GTE UNITS FOR COMMERCIAL POTENTIAL.
- EXPLORE HARDWARE-BASED SERVICES OPPORTUNITIES IN DEPTH.
- ASSESS ACQUISITION POSSIBILITIES.
- DEVELOP ACHIEVABLE LONG-TERM REVENUE AND PROFIT GOALS BASED ON A SOUND STRATEGIC PLAN.

PART 3: OBJECTIVES

1. ASSURE CONTINUITY OF DIRECTION.
2. MAP FURTHER EXPANSION OPPORTUNITIES.
3. DEVELOP SOUND PERFORMANCE EVALUATION CRITERIA.

BASIC PLAN FOR GTEDS - (continued)

PART 2: OBJECTIVES

1. DEVELOP CLEAR UNDERSTANDING OF MARKET POTENTIAL OF TELCO SPECIALIZATION.

2. CREATE REALISTIC UNDERSTANDING OF LIMITS.

3. DEFINE HIGH VALUE, HIGH DEMAND USER NEEDS.

BASIC PLAN FOR GTEDS

PART 2: ASSESS POTENTIAL OF VARIOUS INITIAL MARKET STRATEGIES.

- DETERMINE DESIRABILITY OF A TELCO MARKET SPECIALZATION AS A COMMERCIAL LAUNCH.
- CONDUCT FIELD RESEARCH ON TELCO PRACTICES AND NEEDS, BOTH INDEPENDENT AND BELL COMPANIES.
- ~~SEEK DATA BASE OPPORTUNITIES RELATED~~ TO SPECIALIZATION.
  - FACS?
  - TARIFFS, FILINGS?
  - MEASURED USAGE?
  - DIRECTORY?
  - CUSTOMER DB?
- MARKET HARDWARE REQUIREMENTS AND SERVICE POTENTIAL.
  - IBM.
  - VAX/UNIX.
  - MICROS.
  - HONEYWELL DATANET.
- EXAMINE ALTERNATIVE/RELATED MARKETS.

BASIC PLAN COMPONENTS FOR GTEDS

PART 1: FUNCTIONALLY ANALYZE EXISTING ORGANIZATION FOR STRENGTHS AND WEAKNESSES.

- PARTIALLY COMPLETED.
- DEVELOP SCHEDULE FOR STAFF AUGMENTATION.
- DEVELOP PROFORMAS FOR REVISED CAPTIVE ORGANIZATION CHANGING TO "COMMERCIAL."

PART 1: OBJECTIVES:

1. ASSURE CONTINUED GTEDS VIABILITY UNDER COMPETITIVE PRESSURES.
2. IMPROVE COST/BENEFITS TO EXISTING USERS.
3. TEST FEASIBILITY OF TRANSITION PATHS UNDER RIGOROUS MANAGEMENT AND FINANCIAL CRITERIA.

INPUT

INPUT INTERIM RECOMMENDATIONS

- GTEDS SHOULD BEGIN TO STAFF FOR COMMERCIAL OPERATION SOON.
- ANALYTICAL, PRODUCT AND PROFESSIONAL SERVICES STAFFING WILL IMPROVE QUALITY OF CURRENT CAPTIVE SERVICE.
- WILL REDUCE PRESSURE TO CONVERT IN-HOUSE THROUGH INCREASED USER SATISFACTION.
- WILL PROVIDE VALUABLE INSIGHTS USEFUL IN "METAMORPHOSIS" MANAGEMENT.
- IMPORTANT INDEPENDENT OF COMMERCIAL GO/NO-GO OR SCALE OF COMMERCIAL OPERATIONS.

ABSENT COMPONENTS - (continued)

- PRODUCT DEVELOPMENT.
  - DISCRETE "R&D" GROUP.
  - ATTACHED TO PRODUCT MANAGERS.
- PROFESSIONAL SERVICES.
  - USAGE PROMOTION GOAL.
  - USER DEPENDENCE GOAL.
  - SMALL GROUP.
- MARKETING AND COMPETITIVE ANALYSIS.
  - MAY FIT UNDER MARKETING ADMINISTRATION.
  - COMPETITIVE ANALYSIS ESSENTIAL.
  - INCLUDES FORMAL "MARKET RESEARCH" IN LARGER FIRMS.
  - "FACT GATHERING" CRUICIAL.

ABSENT COMPONENTS

- SALES FUNCTION.
  - SALES PERSONNEL.
  - LOCAL SALES MANAGEMENT.
  - DISTRICT SALES MANAGEMENT.
- SALES AND MARKETING ADMINISTRATION.
  - DIVISION MANAGEMENT.
  - COMPENSATION AND COMMISSION ANALYST.
  - PRODUCT USAGE ANALYST.
  - PRICING ANALYST.
- MIS/FINANCE.
  - HANDLES BILLING ALGORITHM.
  - USER INQUIRIES.
  - DISCOUNT ACCOUNTING.

GTEDS CURRENT STATUS - (continued)

- o PERSONNEL IN PLACE FIT OPERATIONAL MODE.
  - STAFF OUTLOOK, NOT LINE.
  - EXTENSIVE GTE EXPERIENCE.
  - LARGE COMPANY OUTLOOK.
- o TECHNICALLY COMPETENT.
- o FEW SIGNS OF "OPPORTUNITY" ORIENTATION.
- o CAN FORM A CORE GROUP, BUT KEY FUNCTIONS ARE MISSING AT PRESENT.

GTEDS CURRENT STATUS - (continued)

- o COST CONTAINMENT APPEARS TO BE THE PRIMARY GOAL.
  - ACCUTELY SHORT (ALMOST IMPOVERISHED IN SIZE OF STAFF.
  - CONTAINMENT PHILOSOPHY RESULTS IN LOW SUPPORT LEVEL, INCREASES VULNERABILITY TO IN-HOUSE CONVERSION BY FORCING USER INDEPENDENCE.
  - EXISTENCE BY DECREE LIMITS FREEDOM TO RESPOND BY BOTH USERS AND GTEDS.

INPUT

FINANCIAL PERFORMANCE COMPARISONS (1981)

	75 TELCOS	48 C/S COMPANIES
FIVE YEAR AVERAGE SALES GROWTH	13.9%	23.3%
NET MARGIN	11.8%	5.5%
REV/EMP	$ 68.1K	$48.7K
CAP/EMP	$114.8K	$28.1K
ROI	5.6%	9.1%
ROE	13.05%	10.5%

NOTE: SUBSTANTIALLY LOWER CAPITAL REQUIREMENTS, SUPERIOR GROWTH IN SALES AND MUCH HIGHER ROI OF SERVICE COMPANIES.

AFFILIATED SERVICE COMPANIES
1981 REVENUES ($ MM)

COMPANY	1980	1981	PERCENT CHANGE	RANK 1981	YEAR STARTED
GEISCO	373	548	47%	5	65
McAuto	179	226	26%	11	70
Litton	145	175	21%	13	71
Boeing Computer Service	115	144	26%	19	70
United	113	119	5%	26	67
Martin/Marrietta	78	99	27%	35	70
Westinghouse	42	63	50%	56	68
Grumman	53	61	15%	57	72
SUNISCO	35	53	51%	63	75
	1,133	1,488	31%	XX	XX

AVERAGE AGE = 11.33 years

AVERAGE SIZE = $165.3 MM

AVERAGE 80/81 GROWTH = 31%

PRESENTATION TO
GTE DATA SERVICES

SEPTEMBER 15, 1982

TAMPA, FLORIDA

INPUT

GTEDS CURRENT STATUS

- MUCH THAT HAS BEEN DONE HAS BEEN DONE WELL.
  - COST-EFFECTIVE SERVICE AS MEASURED.
  - PRODUCT DEMONSTRATIONS COMPETENT.
  - DOCUMENTATION AT PARITY.
  - PROMOTIONAL MATERIAL GOOD.
  - SOUND OPERATIONAL PRACTICES, GOOD RELIABILITY.

INTERNAL STRATEGY
MAINTENANCE COMPONENTS

- CONVERT UCS INSIDE.
- IMPROVE SUPPORT BY MAKING MORE DIRECT.
- PROVIDE PROGRAMMING ASSISTANCE.
- PRICE CUTS? (INTERNAL ANALYSTS)

INTERNAL STRATEGY
AGGRESSIVE COMPONENTS

- BUILD INTERNAL R&D CAPABILITY.
- OFFER HIGH-VALUE INDUSTRY-SPECIFIC APPLICATIONS.
- BECOME TECHNICAL LEADER IN NEW DELIVERY MECHANISMS.
- PLUS "MAINTENANCE" COMPONENTS

ALL USEFUL IN THE COMMERCIAL WORLD AND NECESSARY IN MOST CASES.

GTEDS PROJECTED GROWTH AT VARIOUS RATES (5 YEAR BASE CASE)

(1981=$9.48MM)

RATE	$MM 1986 REVENUE	
10%	15.3	
15%	19.1	
20%	23.6	INDUSTRY AVERAGE RANGE
25%	28.9	
30%	35.2	
35%	42.5	
40%	51.0	

- A MAINTENANCE PHILOSOPHY WILL BRING GTEDS TO $25 MILLION IN FIVE YEARS AT "AVERAGE" RCS GROWTH RATES. 2.6X 1981 SIZE.
- AN AGGRESSIVE PHILOSOPHY COULD MOVE GROWTH TO 30% AVERAGE FOR $35 MILLION OR 3.7X 1981 SIZE.
- IN EITHER CASE ORGANIZATIONAL CHANGES WILL BE REQUIRED.

INPUT

BOC OUTSIDE T/S EXPENDITURES

	EXPENDITURE	$/PHONE
NEW YORK	$ 14MM	1.16
PACIFIC	13MM	.87
SOUTHWESTERN	5MM	.45
MOUNTAIN	5MM	.70
NEW ENGLAND	4MM	.59
SOUTH CENTRAL	4MM	.40

AVERAGE = .695
S = .2846
HIGH = 1.16
LOW = .40

TOTAL SYSTEM EXPENDITURES = $87MM
OR .63/PHONE IN 1979

- SUGGESTS @$139MM EXPENDITURE LEVEL IN 1982 AT HISTORICAL GROWTH RATE OF 17%/YEAR FOR THE BELL COMPANIES.

- MAY BE OPENED BY DEREGULATION TURMOIL

INPUT

GTE INTERACTIVE COMPUTING EXPENDITURES BY TELEPHONE COMPANY

UNIT	1979 HANDSETS	$ RCS	$ UCS	DOLLAR TOTAL
CALIFORNIA	3,784,439	.17	.21	.39
FLORIDA	1,499,487	.67	.01	.68
ILLINOIS	870,281	.52	.10	.62
INDIANA	848,116	.61	.14	.75
KENTUCKY	421,584	.51	.02	.53
MICHIGAN	678,806	.27	.02	.29
MIDWEST	374,812	.47	.13	.60
NORTHWEST	926,464	.43	.003	.433
OHIO	855,035	.37	.21	.58
PENNSYLVANIA	574,327	.55	--	.55
SOUTHEAST	861,191	.69	.28	.97
SOUTHWEST	1,488,375	.62	.43	1.05
WISCONSIN	483,788	.69	--	.69
	13,670,000		AVERAGE	.6256
			S =	.2129
			MINIMUM =	.39
			MAXIMUM =	1.05

INPUT

COST PER TCH UNDER SEVERAL ASSUMPTIONS

	COST/TCH	PERCENT CHANGE	TCH "LIST" EQUIVALENT
1981 REPORTED	$29.33	X	$40.14
1981 REPORTED + COMMUNICATION	$36.33	+23.9	$49.72
1981 REPORTED + COMMUNICATION + A	$41.72	+42.2	$57.10
1981 REPORTED + COMMUNICATION + B	$49.81	+69.8	$68.17

- AS GTEDS BECOMES MORE "COMMERCIAL" COST PRESSURES WILL BECOME SEVERE.
- WILL NEED TO LOOK AT COST-EFFECTIVENESS OF HONEYWELL HARDWARE VERSUS OTHER TYPES.
- TOP LEVEL ABOUT EQUAL TO CURRENT RATES FROM UCS.
- CURRENT "MARGIN"@ 28% SEEMS VERY HIGH COMPARED TO TYPICAL PRETAX OF 16% FOR RCS VENDORS. FULLY LOADED?

GTEDS ADJUSTED EMPLOYMENT PROFORMA - PLUS COMMUNICATIONS - (continued)

	1981 REPORTED	1981 ADJUSTED A	1981 ADJUSTED B
REVENUE	$9,480	$9,480	$9,480
TOTAL EXPENSES	6,840	8,096	9,982
CONTRIBUTION	2,640	1,384	(502)
COMMUNICATION*	(1,632)	(1,632)	(1,632)
"NET" CONT.	1,008	(248)	(2,134)
MARGIN	10.6%	-2.62%	-22.5%

- CURRENT RATE STRUCTURE CAN SUPPORT COMMUNICATIONS EXPENSE AT CURRENT PERSONNEL LEVEL.
- CURRENT RATE STRUCTURE CANNOT SUPPORT HIGH EFFICIENCY PEOPLE EXPENSE AND COMMUNICATIONS COST.

*233,187 hours at $7.00 per hour.

GTEDS ADJUSTED EMPLOYMENT
PROFORMA ($000)

	1981 REPORTED	1981 ADJUSTED A	1981 ADJUSTED B
EMPLOYEES	70P	120P	195P
RPE	135.4K	79K	48.7K
EMPLOYEE EXPENSES	1,760	3,016	4,902
OTHER EXPENSES	5,080	5,080	5,080
TOTAL EXPENSES	6,840	8,096	9,982
REVENUE	9,480	9,480	9,480
CONTRIBUTION	2,640	1,384	(502)
"MARGIN"	27.85%	14.6%	-5.3%

A = HIGH EFFICIENCY

B = AVERAGE EFFICIENCY

INPUT

RCS EXPENSE PROFILE

	TYPICAL	GTEDS (REPORTED)
G&A	12.9%	1.0%
OPERATIONS	27.7%	61.0%
DATA COMMUNICATIONS	10.8%	X
R&D	8.1%	X
SALES	31.2%	18.0%
MARKETING	9.3%	20.0%
	100.0%	100.0%
"PRETAX" MARGIN	16.0%	28.0%

ONLY AN APPROXIMATE COMPARISON, BUT SHAPE OF EXPENDITURES IS ACUTELY DIFFERENT.

INPUT